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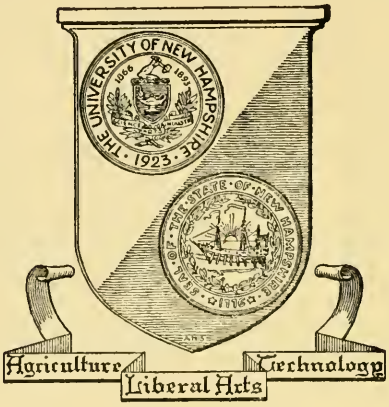


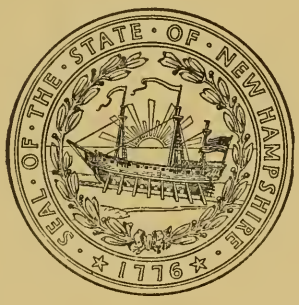
The University
of
New Hampshire

Bulletin 329 November, 1940

THE UNIVERSITY OF NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL
CHEMISTRY

Inspection of Commercial Fertilizers for 1940

MADE FOR THE
STATE DEPARTMENT OF AGRICULTURE



T. O. Smith and H. A. Davis

THE UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.

THE CONCORD PRESS
CONCORD, N. H.

INSPECTION OF COMMERCIAL FERTILIZERS

MADE FOR THE STATE DEPARTMENT OF AGRICULTURE

The inspection of commercial fertilizers reported in this bulletin was made under the direction of the Honorable Andrew L. Felker, Commissioner of Agriculture. The state inspector, Mr. Eugene D. Sanborn, collected samples of 116 brands of fertilizer and fertilizer materials which were offered for sale by dealers or had been delivered to consumers during the year ending June, 1940. The general character of the brands sampled is shown by the following classification:

Complete fertilizers	87
Phosphoric acid and potash	3
Superphosphate	8
Urea	2
Nitrate of soda	2
Calnitro	1
Sulphate of ammonia	1
Muriate of potash	2
Ground bone	3
Milorganite	1
Natural manures	6
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THE FERTILIZER LAW

The purchaser of a fertilizer should familiarize himself with the full text of the fertilizer law. He should not accept from the dealer any bag of fertilizer which is not tagged and guaranteed in compliance with the law. The law governing these matters follows:

"Every lot or parcel of commercial fertilizer or fertilizer material sold or offered or exposed for sale within this state shall be accompanied by a plainly printed statement, clearly and truly certifying the number of net

pounds of fertilizer in the package, the name, brand or trademark under which the fertilizer is sold, the name and address of the manufacturer or importer, the location of the factory, and a chemical analysis stating the minimum percentage of nitrogen, of available phosphoric acid and of water soluble potash expressed in whole numbers.

"No fertilizer or fertilizer material containing the three essential fertilizing elements, nitrogen, phosphoric acid and potash may be sold or offered for sale if the total minimum plant food nutrients contained therein is less than fourteen per cent by weight, provided however that natural animal and bird manures shall be excepted from the provisions of this section."

The state official charged with the enforcement of the fertilizer law is the Commissioner of Agriculture. Copies of the full text of the law may be obtained from his office in Concord. All inquiries concerning the law and all matters relative to the registration of brands should be addressed to his office.

The chief purpose of the official inspection required by the fertilizer law is to protect the consumer against the misbranded products which would doubtless soon appear on the market if the sale of fertilizer was not under state regulation. The value of a fertilizer depends mainly upon its content of available plant food, particularly nitrogen, phosphoric acid and potash. The presence of these constituents can only be determined by a chemical analysis. To insure that they are being furnished by all manufacturers in the guaranteed amounts, it is considered necessary that each brand of fertilizer offered for sale be officially inspected and analyzed one or more times each year. When failure to meet the guarantee is proven by chemical analysis, the prosecution or seizure provisions of the law may be invoked. The purchaser's refusal to buy a fertilizer which does not conform to the law in every respect will not only assist in the enforcement of

the law but will at the same time insure himself the protection of the law. If the buyer fails to assure himself the legal requirements have been met, he accepts the fertilizer at his own risk.

All samples reported in this bulletin were drawn by an inspector appointed by the Commissioner of Agriculture. The chemical analyses were made by the methods of the Association of Official Agricultural Chemists. Twenty-nine of the complete fertilizer samples were ground to pass a one-half millimeter sieve.

TABLE I.

Formula	Number of brands	Average per cent nitrogen	Average per cent available phosphoric acid	Average per cent water soluble potash	Average retail price per ton
2—8—10	1	2.41	8.13	10.00	35.00
3—10—4	3	3.24	10.15	4.51	38.13
3—10—6	1	3.06	9.55	6.32	37.90
3—12—6	1	3.02	12.08	6.83	35.60
4—8—4	8	4.09	8.00	4.27	34.80
4—8—7	2	4.18	8.34	7.10	34.50
4—8—8	1	4.02	8.26	8.01	33.00
4—8—10	10	4.12	8.19	10.16	39.38
4—12—4	5	4.21	11.60	4.75	35.60
4—12—6	1	4.01	11.30	6.49	41.40
4—16—4	1	4.10	16.00	4.60	36.00
4—16—20	2	4.22	15.90	20.33	49.98
5—5—5	1	5.01	5.41	5.27	52.00
5—7—3	1	5.01	7.00	3.64	115.00
5—8—7	11	5.02	7.78	7.27	38.76
5—8—10	1	4.88	7.64	10.00	40.00
5—10—5	3	5.18	10.24	5.20	35.53
5—10—10	3	5.24	10.14	10.90	40.87
5—15—5	1	5.35	15.00	5.49	35.20
6—12—12	1	6.06	11.92	12.00	——
7—5—3	1	7.03	5.19	3.08	65.00
7—6—6	3	7.02	6.27	6.29	39.47
7—7—5	1	7.01	7.64	5.01	85.00
7—7—7	5	7.10	7.48	7.45	42.07
8—5—2	1	8.21	4.70	2.99	66.00
8—5—8	1	8.29	6.36	8.52	49.00
8—6—2	2	8.01	6.67	2.29	61.40
8—8—4	1	8.02	8.50	4.00	46.35
8—16—8	1	8.31	15.35	8.49	42.40
8—16—14	5	8.11	15.90	14.22	56.95
8—16—16	4	7.83	15.80	16.54	46.40
8—16—20	2	7.89	15.42	19.33	62.13
8—24—8	1	8.54	24.93	8.68	48.00
10—10—10	1	10.01	12.36	9.59	43.80

In Table I are tabulated the grades of complete fertilizers analyzed in this year's inspection, the number of brands sampled by the inspector in each grade, the average per cent of nitrogen, of available phosphoric acid, and of water soluble potash and the average retail price per ton.

CONFORMITY TO GUARANTEE

Seventy-four of the 116 brands analyzed equalled or exceeded the manufacturer's guarantee. One brand was below the guarantee in each of the three constituents, total nitrogen, available phosphoric acid and water soluble potash. Eight brands were below guarantee in two of the three constituents, six in nitrogen and available phosphoric acid, one in nitrogen and total phosphoric acid, and one in nitrogen and potash. Thirty-three brands failed to meet the guarantee in only one constituent.

Including all the brands referred to above, 15 brands were found to contain less than the guaranteed amount of nitrogen. The greatest deficiency was 0.60 per cent. The average of the other 14 deficiencies was 0.17 per cent. Twenty-nine brands failed to meet the guarantee in available phosphoric acid. One brand was deficient 1.25 per cent. The average of the other 29 deficiencies was 0.42 per cent. Six brands contained less potash than was guaranteed. The greatest deficiency was 1.79 per cent. The average of the other 5 deficiencies was 0.48 per cent.

Thirteen brands were guaranteed to contain magnesium oxide. All fully met the guarantee.

In the tabulation of the analyses in the following pages deficiencies of one-fourth of one per cent or more are shown in bold face type. The manufacturers are arranged alphabetically. The brand name is listed alphabetically or numerically by formula under the manufacturer

	Nitrogen		Phosphoric Acid				Potash		Magnesium Oxide	
			Total		Available					
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
American Agricultural Chemical Co. North Weymouth, Mass.										
AA 3-10-4 Corn Favorite	3.00	3.14	.....	10.55	10.00	9.83	4.00	4.25	.....	.....
AA 4-8-4 Market Garden Fertilizer	4.00	4.18	.....	8.33	8.00	**7.50**	4.00	4.51	.....	.....
AA 4-8-10 Potato and Root Crop Fertilizer	4.00	3.80	.....	8.69	8.00	8.11	10.00	10.12	.....	.....
AA 5-8-7 Potato and Vegetable Fertilizer	5.00	4.90	.....	8.60	8.00	8.02	7.00	7.04	.....	.....
AA 7-7-7 Top Dresser	7.00	7.00	.....	7.36	7.00	7.02	7.00	7.21	.....	.....
AA 8-16-14 Double Strength Fertilizer	8.00	8.34	.....	16.27	16.00	16.01	14.00	14.32	.....	.....
AA 8-16-16 Fertilizer	8.00	7.88	.....	16.30	16.00	16.07	16.00	**15.16**	.....	.....
AA Superphosphate 16%	.....	.....	.....	16.48	16.00	16.10	.....	.....	.....	.....
Agrico 3-10-6 for Corn	3.00	3.06	.....	10.21	10.00	**9.55**	6.00	6.32	.....	.....
Agrico 4-8-10 for New England	4.00	4.25	.....	8.86	8.00	8.22	10.00	**9.65**	.....	.....
Agrico 4-12-6 for Corn	4.00	4.01	.....	12.18	12.00	**11.30**	6.00	6.49	.....	.....
Agrico 4-16-20 for Seeding Down	4.00	4.12	.....	15.73	16.00	**15.25**	20.00	20.47	.....	.....
Agrico 5-8-7 for Potatoes and Vegetables	5.00	4.88	.....	8.24	8.00	**7.56**	7.00	7.27	.....	.....
Agrico 5-8-10 for Aroostook with 10% Potash	5.00	4.88	.....	8.22	8.00	**7.64**	10.00	10.00	.....	.....
Agrico 7-7-5 for Lawns, Trees and Shrubs	7.00	7.01	.....	7.87	7.00	7.64	5.00	5.01	.....	.....
Agrico 7-7-7 for Top Dressing	7.00	7.31	.....	7.50	7.00	7.17	7.00	7.47	.....	.....
Agrico 8-6-2 Country Club Fertilizer	8.00	8.00	.....	6.42	6.00	6.17	2.00	2.08	.....	.....
Agrico 8-8-4 for Fruit	8.00	8.02	.....	8.98	8.00	8.50	4.00	4.00	.....	.....
Agrico 8-16-14 for Potatoes Double Strength	8.00	8.00	.....	15.75	16.00	**15.52**	14.00	14.03	.....	.....
Agrico 8-16-20 for Potatoes Double Strength	8.00	8.14	.....	15.86	16.00	**15.64**	20.00	20.45	.....	.....
Pulverized Sheep and Goat Manure	1.25	1.71	1.00	1.27	.....	1.17	2.00	2.98	.....	.....

	Nitrogen		Phosphoric Acid				Potash		Magnesium Oxide	
			Total		Available					
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
Apothecaries Hall Co. Waterbury, Conn.										
Liberty Fertilizer 8-16-20	8.00	**7.64**	.....	15.63	16.00	**15.19**	20.00	**18.21**	.....	.....
Liberty Fish, Bone and Potash 3-10-4	3.00	3.35	.....	10.46	10.00	10.31	4.00	4.63	.....	.....
Liberty High Grade Corn Fertilizer 4-12-4	4.00	4.65	.....	11.23	12.00	**11.09**	4.00	6.14	.....	.....
Liberty High Grade Market Garden 5-8-7	5.00	5.22	.....	8.53	8.00	8.29	7.00	7.52	.....	.....
Liberty Market Garden Special 4-8-4	4.00	4.27	.....	8.47	8.00	8.34	4.00	4.37	.....	.....
Liberty Potato and General Crops 4-8-10	4.00	4.12	.....	8.54	8.00	8.10	10.00	10.29	.....	.....
Liberty Special Fertilizer for Fruit and Grass 7-7-7	7.00	7.10	.....	7.66	7.00	7.50	7.00	7.28	.....	.....
Superphosphate	.....	.....	.....	17.39	16.00	16.15	.....	.....	.....	.....
Armour Fertilizer Works Cartaret, N. J.										
Armour's Big Crop Fertilizer 2-8-10	2.00	2.41	.....	8.62	8.00	8.13	10.00	10.00	.....	.....
Armour's Big Crop Fertilizer 3-12-6	3.00	3.02	.....	12.56	12.00	12.08	6.00	6.83	.....	.....
Armour's Big Crop Fertilizer 4-8-4	4.00	3.87	.....	8.39	8.00	8.00	4.00	4.24	.....	.....
Armour's Big Crop Fertilizer 4-8-10	4.00	4.00	.....	8.48	8.00	8.09	10.00	10.12	.....	.....
Armour's Big Crop Fertilizer 4-12-4	4.00	4.07	.....	12.32	12.00	11.78	4.00	4.24	.....	.....
Armour's Big Crop Fertilizer 4-16-4	4.00	4.10	.....	16.42	16.00	16.00	4.00	4.60	.....	.....
Armour's Big Crop Fertilizer 5-8-7	5.00	**4.74**	.....	8.03	8.00	**7.71**	7.00	7.00	.....	.....
Armour's Big Crop Fertilizer 5-10-5	5.00	5.02	.....	10.50	10.00	10.05	5.00	5.07	.....	.....
Armour's Big Crop Fertilizer 5-10-10	5.00	5.04	.....	10.64	10.00	10.15	10.00	10.59	.....	.....
Armour's Big Crop Fertilizer 7-7-7	7.00	7.01	.....	7.97	7.00	7.59	7.00	7.38	.....	.....
Armour's Big Crop Superphosphate 16%	.....	.....	.....	16.30	16.00	**15.61**	.....	.....	.....	.....
Armour's Fertilizer 4-8-8	4.00	4.02	.....	8.74	8.00	8.26	8.00	8.01	.....	.....
Armour's Sheep and Goat Manure	1.25	1.90	1.00	2.50	.....	1.84	2.00	3.02	.....	.....

Atkins & Durbrow New York, N. Y.										
Improved Driconure	2.00	2.70	.....	1.78	1.00	1.63	1.00	1.51	.....	.....
Barrett Company New York, N. Y.										
Arcadian Nitrate of Soda	16.00	16.09	.....	.....	.....	.....	.....	.....	.....	.....
Berkshire Chemical Co. Bridgeport, Conn.										
Berkshire Fertilizer 0-20-20	.....	.....	.....	20.13	20.00	**19.62**	20.00	21.58	.....	.....
Berkshire Fertilizer 4-8-4	4.00	4.17	.....	8.45	8.00	8.00	4.00	4.15	.....	.....
Berkshire Fertilizer 4-8-10	4.00	4.28	.....	8.59	8.00	8.26	10.00	10.15	.....	.....
Berkshire Fertilizer 5-8-7	5.00	5.28	.....	8.23	8.00	**7.73**	7.00	7.36	.....	.....
Berkshire Golf Green Fertilizer 8-5-2	8.00	8.21	.....	5.20	5.00	**4.70**	2.00	2.99	.....	.....
Berkshire Fertilizer 8-16-16	8.00	**7.40**	.....	15.26	16.00	**14.99**	16.00	18.51	.....	.....
Chilean Nitrate Sales Corp. New York, N. Y.										
Chilean Nitrate of Soda Champion Brand	16.00	16.06	.....	.....	.....	.....	.....	.....	.....	.....
Consolidated Rendering Co. Boston, Mass.										
Corenco 4-8-4 Corn and Vegetable	4.00	4.09	.....	8.98	8.00	8.20	4.00	4.45	.....	.....
Corenco 4-8-10 Potato Grower	4.00	4.12	.....	8.57	8.00	8.00	10.00	10.29	.....	.....
Corenco 4-12-4 Complete Manure	4.00	4.03	.....	11.98	12.00	**11.49**	4.00	4.06	.....	.....

	Nitrogen		Phosphoric Acid				Potash		Magnesium Oxide	
			Total		Available					
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
Corenco 5-5-5 Lawn and Shrub Fertilizer	5.00	5.01	.....	5.90	5.00	5.41	5.00	5.27	.....	.....
Corenco 5-8-7 General Crop Manure	5.00	5.09	.....	8.49	8.00	**6.75**	7.00	7.11	.....	.....
Corenco 7-6-6 Complete Fruit and Top Dressing	7.00	7.04	.....	6.88	6.00	6.36	6.00	6.38	.....	.....
Corenco Sheep Manure	1.25	1.25	1.00	1.26	.....	1.16	2.00	2.91	.....	.....
Corenco Superphosphate 20%	.....	.....	.....	21.22	20.00	21.02	.....	.....	.....	.....
Muriate of Potash	.....	.....	.....	.....	.....	.....	50.00	50.11	.....	.....
Sulphate of Ammonia	20.50	21.04	.....	.....	.....	.....	.....	.....	.....	.....
Davison Chemical Corp. Baltimore, Md.										
Davco Granulated 20% Superphosphate	.....	.....	.....	21.60	20.00	21.16	.....	.....	.....	.....
E. I. duPont de Nemours & Co. Wilmington, Del.										
duPont Uramon Fertilizer Compound	42.00	42.47	.....	.....	.....	.....	.....	.....	.....	.....
Eastern States Farmers' Exchange Springfield, Mass.										
Eastern States Agricultural Urea	42.00	42.40	.....	.....	.....	.....	.....	.....	.....	.....
Eastern States Calnitro	20.50	20.80	.....	.....	.....	.....	.....	.....	.....	.....
Eastern States Ground Steamed Bone	2.50	2.75	23.00	27.85	.....	.....	.....	.....	.....	.....
Eastern States 0-20-20 Open Formula Fertilizer	.....	.....	.....	22.32	20.00	21.83	20.00	**19.38**	.....	.....
Eastern States 4-16-20 Open Formula Fertilizer	4.00	4.32	.....	17.14	16.00	16.54	20.00	20.19	1.50	2.28

Eastern States 5-10-5 Open Formula Fertilizer	5.00	5.59	.....	11.20	10.00	10.68	5.00	5.58	2.00	3.11
Eastern States 5-10-10 Open Formula Fertilizer	5.00	5.61	.....	11.01	10.00	10.48	10.00	10.63	1.50	2.39
Eastern States 5-15-5 Open Formula Fertilizer	5.00	5.35	.....	15.82	15.00	15.00	5.00	5.49	1.00	1.52
Eastern States 7-7-7 Open Formula Fertilizer	7.00	7.07	.....	8.58	7.00	8.14	7.00	7.93	3.00	3.77
Eastern States 8-16-8 Open Formula Fertilizer	8.00	8.31	.....	15.85	16.00	**15.35**	8.00	8.49	2.00	3.01
Eastern States 8-16-16 Open Formula Fertilizer	8.00	8.02	.....	17.14	16.00	16.77	16.00	16.28	2.00	2.72
Eastern States 8-24-8 Open Formula Fertilizer	8.00	8.54	.....	25.85	24.00	24.93	8.00	8.68	1.00	2.10
Eastern States 10-10-10 Open Formula Fertilizer	10.00	10.01	.....	12.58	10.00	12.36	10.00	**9.59**	2.50	3.44
Eastern States 20% Superphosphate Granular	.....	.....	20.50	21.25	20.00	20.77	.....	.....	.....	.....
Thomas W. Emerson Co. Boston, Mass.										
English Formula Lawn and Garden Dressing 5-7-3	5.00	5.01	.....	10.51	7.00	7.00	3.00	3.64	.....	.....
International Agricultural Corp. Woburn, Mass.										
Bone Meal	2.47	2.22	23.00	23.83	.....	.....	.....	.....	.....	.....
Caribee Green and Fairway Fertilizer 7-5-3	7.00	7.03	.....	5.30	5.00	5.19	3.00	3.08	.....	.....

	Nitrogen		Phosphoric Acid				Potash		Magnesium Oxide	
			Total		Available					
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
Caribee Market Garden Fertilizer 5-10-10	5.00	5.06	.....	10.35	10.00	9.80	10.00	11.47	2.00	2.57
International 0-20-20 Fertilizer	.....	.....	.....	20.47	20.00	20.13	20.00	20.00	.....	.....
International 4-8-4 Fertilizer	4.00	3.91	.....	8.13	8.00	**7.70**	4.00	4.00	.....	.....
International 4-8-10 Fertilizer	4.00	4.03	.....	8.59	8.00	8.12	10.00	9.83	.....	.....
International 5-8-7 Fertilizer	5.00	4.88	.....	8.42	8.00	8.02	7.00	7.01	.....	.....
International 6-12-12 Fertilizer	6.00	6.06	.....	12.20	12.00	11.92	12.00	12.00	2.00	2.32
International 8-16-14 Fertilizer	8.00	7.80	.....	15.92	16.00	**15.50**	14.00	14.07	2.00	2.39
International 8-16-16 Fertilizer	8.00	8.00	.....	16.22	16.00	**15.38**	16.00	16.20	2.00	2.14
Merrimack Farmers' Exchange Concord, N. H.										
Merrimack Brand 4-8-4	4.00	4.06	.....	8.43	8.00	8.04	4.00	4.24	.....	.....
Merrimack Brand 4-8-10	4.00	4.20	.....	8.97	8.00	8.67	10.00	10.04	.....	.....
Merrimack Brand 5-8-7	5.00	5.07	.....	8.45	8.00	**7.48**	7.00	7.42	.....	.....
Merrimack Brand 5-10-5	5.00	4.93	.....	10.45	10.00	10.00	5.00	5.24	.....	.....
Merrimack Brand 7-6-6 Top Dressing	7.00	7.01	.....	6.55	6.00	6.00	6.00	6.18	.....	.....
Merrimack Brand 8-16-14	8.00	8.13	.....	16.66	16.00	16.04	14.00	14.65	.....	.....
Norwood Brand Fertilizer Co. North Reading, Mass.										
Norwood Brand Sheep Manure	1.83	1.62	0.89	**0.41**	.....	0.31	1.03	3.16	.....	.....
N. V. Potash Co. New York, N. Y.										
Muriate Potash	.....	.....	.....	.....	.....	.....	50.00	50.23	.....	.....

Rogers & Hubbard Co. Portland, Conn.										
Hubbard's Corn and Grain Fertilizer 3-10-4	3.00	3.22	.....	10.88	10.00	10.31	4.00	4.65	.....	.....
Hubbard's Corn Fertilizer 4-8-7	4.00	4.16	.....	9.52	8.00	8.42	7.00	7.14	.....	.....
Hubbard's Golf Course Fertilizer 8-6-2	8.00	8.01	.....	8.87	6.00	7.17	2.00	2.49	.....	.....
Hubbard's High Potash Fertilizer 4-8-10	4.00	4.20	.....	8.98	8.00	8.16	10.00	10.02	.....	.....
Hubbard's Potato Fertilizer 5-8-7	5.00	5.19	.....	9.21	8.00	8.29	7.00	7.59	.....	.....
Hubbard's 16% Superphosphate	.....	.....	.....	16.36	16.00	16.04	.....	.....	.....	.....
Hubbard's 20% Superphosphate	.....	.....	.....	20.45	20.00	20.35	.....	.....	.....	.....
Hubbard's Top Dressing 8-5-8	8.00	8.29	8.00	8.26	5.00	6.36	8.00	8.52	.....	.....
Red H Brand 4-8-4	4.00	4.14	.....	8.88	8.00	8.30	4.00	4.23	.....	.....
Red H Brand 4-8-7	4.00	4.20	.....	8.97	8.00	8.25	7.00	7.06	.....	.....
Red H Brand 4-8-10	4.00	4.22	.....	8.65	8.00	8.20	10.00	11.05	.....	.....
Red H Brand 4-12-4	4.00	4.26	.....	13.37	12.00	12.27	4.00	4.82	.....	.....
Red H Brand 5-8-7	5.00	5.01	.....	8.67	8.00	8.13	7.00	7.15	.....	.....
Red H Brand 7-6-6	7.00	7.02	.....	6.82	6.00	6.44	6.00	6.32	.....	.....
Red H Brand 8-16-14	8.00	8.26	.....	16.86	16.00	16.41	14.00	14.04	.....	.....
Sewerage Commission Milwaukee, Wis.										
Milwaukee Milorganite Ideal Turf Fertilizer	6.00	6.09	2.75	2.75	2.00	2.22	.....	.....	.....	.....
Swift & Company Fertilizer Works Baltimore, Md.										
Bone Meal Fertilizer	2.47	2.91	23.00	26.45	.....	.....	.....	.....	.....	.....
Roselawn Special Plant Food 5-8-7	5.00	5.01	.....	8.68	8.00	**7.56**	7.00	7.46	.....	.....
Swift's Pulverized Sheep Manure	1.85	2.14	1.00	1.53	.....	1.41	1.75	2.68	.....	.....
Vigoro	4.00	4.06	.....	12.23	12.00	**11.39**	4.00	4.49	.....	.....